

REMARKS

Claims 1-3 are pending in this application. By this Amendment, claim 1 is amended. Reconsideration of the application is respectfully requested.

The Office Action provisionally rejects claims 1-3 for obviousness-type double patenting over claims 1-6 of copending Application No. 10/722,427. A Terminal Disclaimer is filed to obviate the rejection. Accordingly, withdrawal of the provisional double patenting rejection is thus respectfully requested.

The Office Action rejects claims 1-3 under 35 U.S.C. §103(a) over Ikushima et al. (U.S. Patent No. 4,599,199) or over Yamamoto et al. (U.S. Patent Application Publication No. US 2002/0157741). The rejection is respectfully traversed.

In particular, none of the applied references disclose or suggest a copper alloy that includes second-phase particles formed by copper, titanium, and the unavoidable impurity elements, wherein the second-phase particles have area of not less than 0.01  $\mu\text{m}^2$ , as recited in independent claim 1.

Ikushima teaches an age-hardening copper titanium alloy containing 2 to 6 percent by weight of titanium and composed of a substantially fully solution heat-treated structure having an average crystal grain size not exceeding 25  $\mu\text{m}$  (abstract).

Yamamoto teaches a high-strength titanium copper alloy consisting of titanium at two percent by mass or more to 3½ percent by mass or less, the balance of copper and inevitable impurities, an average grain size of 20  $\mu\text{m}$  or less, and a 0.2 percent proof stress of 800 N/mm<sup>2</sup> or more (abstract).

Specifically, Ikushima merely teaches that a structure of the second-phase particle is precipitated by annealing before the solution heat treatment (col. 2, lines 32-46), but Ikushima does not disclose or suggest the structure of the second-phase particle after the solution heat treatment is carried out. Moreover, Ikushima teaches that the second-phase particle structure

before the solution heat treatment is titanium copper  $TiCu_3$  (col. 2, line 43). However, this structure is undesirable because bendability of the material is deteriorated when titanium copper is precipitated as explained in the specification at, for example, section [0030]. Moreover, Ikushima fails to teach or suggest that the amount of titanium copper in the final material is small. Accordingly, Ikushima fails to disclose, suggest or render obvious the features of independent claim 1.

Furthermore, Yamamoto teaches performing a heat treatment below the temperature of precipitation of  $TiCu_3$  (page 3, section [0033]). Accordingly, when the cold-rolling is performed after the heat treatment, titanium copper is not dissolved, and the crystalline grains of the precipitated  $TiCu_3$  in the solution become easily coarsened during aging. Accordingly, Yamamoto teaches a structure with a large number of precipitated  $TiCu_3$  grains. As such, Yamamoto teaches a structure that has a low bendability, because bendability is deteriorated when titanium copper is precipitated. As such, Yamamoto does not teach the second-phase particles as claimed by Applicants. Accordingly, Yamamoto fails to disclose or suggest the subject matter of independent claim 1.

Because none of the applied references, either alone or in combination, would arrive at the claimed invention, it would not be obvious to use the teachings of Yamamoto and/or Ikushima to arrive at the subject matter of independent claim 1. As such, independent claim 1, and its dependent claims, are patentable over Yamamoto and Ikushima. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. §103(a) is respectfully requested.

Furthermore, the Office Action indicates, in page 4, lines 9-10, that "claims 1-5 are indefinite because the expression "third element group" has no antecedent basis." It is respectfully submitted that there are no claims 4 and 5 in Applicants' claims, and the current

existing claims do not contain the expression "third element group." As such, withdrawal of the Patent Office's objection is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Petition for Extension of Time  
Terminal Disclaimer

Date: May 16, 2005

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